

REMARKS

Claims 1-3, 14, 18-20, 22, 26, 27, 29, and 39 remain pending. Claims 8-11, 13, 17, 25, 28, 32-33, 35-38, 40-42, 44-47, and 49-57 were previously withdrawn. Claims 4-7, 12, 15, 16, 21, 23, 24, 30, 31, 34, 43, and 48 were withdrawn. Reconsideration and withdrawal of all outstanding rejections are respectfully requested. Applicants' representative would like to thank Examiner Abdi for his time in discussing the outstanding Office Action on October 15, 2007. In that interview, the Examiner stated that in light of the arguments discussed below, the Examiner would reconsider the election of species and rejections as set forth in the Office Action dated August 23, 2007 and that he would not respond with a Final Office Action.

In response to the Election of Species Requirement dated June 19, 2007, Applicants selected species I for continued examination. Applicants identified the claims that were believed to be covered by the elected species, and thus withdrew claims 8-11, 13, 17, 25, 28, 32-33, 35-38, 40-42, 44-47, and 49-57. Applicants also submitted remarks explaining why claims 1-35 and 39-49 could be examined without serious burden in the present application. In the Office Action dated August 23, 2007, additional claims (claims 4-7, 12, 15, 16, 21, 23, 24, 30-31, 34, 43, and 48) were identified as not being readable on the elected species. Accordingly, the Office Action withdrew these claims from consideration. Applicants respectfully disagree and submit that at least claims 4-7, 15, 16, 21, 23, 24, 30-31, and 43 are readable on the elected species for the reasons that follow.

Species I is identified as corresponding to the embodiment shown in Fig. 4 in the present application. The Office Action states that claims 4, 6, 21, 23, and 30 do not read on the elected species because they each recite "a cover over the die." Fig. 4, however, shows a cover 230 over the die 210. The Office Action states that claims 5, 15, and 43 are not readable on the elected species because each contains a "first support on the die around the image sensor and the second referencing element comprises a second [support]." Fig. 4 shows each of these limitations: first support 242 on the die 210; second referencing element 340 includes a second support 342. The Office Action states that claims 7, 16, 24, and 31 are not readable on the elected species because the first and second supports include respective first and second steps. However, this too is shown in

Fig. 4 by referencing elements 240 and 340, as explained in the specification at ¶42. For at least these reasons, applicants submit that claims 4-7, 15, 16, 21, 23, 24, 30-31, and 43 are readable on the elected species and these claims should be examined with the pending claims in this application.

Claims 1-3, 14, 26-27 and 29 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,621,522 to Chang et al ("Chang"). The rejection is traversed and reconsideration requested.

The present invention, as embodied by independent claim 1, relates to a microelectronic imager comprising an imaging unit having an image sensor and "a first referencing element fixed to the imaging unit; and an optics unit having an optic member and a second referencing element fixed to the optics unit," characterized in that "the second referencing element [is] seated with the first referencing element at a fixed, preset position in which the optic member is situated at a desired location relative to the image sensor."

In contrast, Chang teaches an adjustable fixing device including a central supporter and a mask device that are movable with respect to one another in a traveling range. See Abstract. With respect to the elements recited by claim 1, the Office Action asserts that Chang's CCD element 19 reads on the claimed imaging unit, the light source (not shown) reads on the claimed optic unit, the scanner mask device 20 reads on the first referencing element, and the sensor mask device 22 reads on the claimed second referencing element. This analysis is fundamentally flawed for at least the following reasons.

Chang teaches that a scanning mask device 20 and a sensor mask device 22 are both part of a scanning device 11. Col. 3, lines 38-40. The scanning device 11 also includes a light source. Col. 3, line 17. Chang teaches that the scanner mask device 20 and the sensor mask device 22 are used to respectively install a front and back side of a central supporter 21 such that the central supporter 21 and the scanner mask device 20 are movably adjustable with respect to one another. Col. 3, lines 42-67. According to the claimed invention, as embodied by independent claim 1, the first referencing element is fixed to an imaging unit and is seated with a second referencing element

that is fixed to an optic member. Even assuming, *arguendo*, that the light source and the CCD element 19 of Chang respectively read on the optics unit and imaging unit of claim 1, Chang does not teach or suggest the claimed first and second referencing elements of claim 1. Specifically, there is no teaching in Chang that the scanner mask device 20 is fixed to the CCD element 19 nor that the sensor mask device 22 is fixed to the light source; furthermore, there is no teaching or suggestion of seating the scanner mask device 20 with the sensor mask device 22.

For at least these reasons, the scanner mask device 20 and sensor mask device 22 do not read on the claimed first and second referencing elements. The Office Action has failed to establish that each and every element of the claim is found in the Chang reference, and therefore, the anticipation rejection is improper and should be withdrawn. MPEP § 2131. Accordingly, claim 1 is submitted to be allowable. All claims that depend from claim 1 (i.e., claims 2-13) are likewise submitted to be allowable.

Independent claim 14 relates to a microelectronic imager comprising “a first referencing element fixed relative to [a] die, the first referencing element having a first alignment component at a lateral distance from the image sensor and a first stop component spaced apart from the image sensor along an axis normal to the image sensor by separation distance; an optics unit having an optic member; and a second referencing element connected to the optics unit, the second referencing element having a second alignment component engaged with the first alignment component to align the optic member with the image sensor and a second stop component engaged with the first stop component to space the optic member apart from the image sensor by a desired distance.” As above, the Office Action states that Chang’s scanner mask device and sensor mask device read on the claimed first referencing element and second referencing element. Office Action at 6-7. However, the sensor mask device is not “connected to the optics unit” nor does it have a “second alignment component engaged with the first alignment component [in the first referencing element] to space the optic member apart from the image sensor by a desired distance.”

For at least these reasons, the Office Action has failed to establish that each and every element recited by claim 14 is found in the Chang reference, and therefore, the anticipation rejection

is improper and should be withdrawn. MPEP § 2131. Accordingly, claim 14 is submitted to be allowable. All claims that depend from claim 14 (i.e., claims 15-17) are likewise submitted to be allowable.

Independent claim 26 relates to a microelectronic imager comprising: “a first stand-off section fixed to the imaging unit and having a first interface area at a set reference position relative to the image sensor; and an optics unit having an optic member and a second stand-off section fixed to the optics unit, the second stand-off section having a second interface area at a set reference position relative to the optic member, and the first interface area being seated with the second interface area to connect the first stand-off section with the second stand-off section in a configuration in which the optic member is at a desired location relative to the image sensor.” As above, the Office Action states that the scanner mask device 20 and sensor mask device 22 of Chang respectively read on the first and second stand-off sections as in the claimed invention. However, the interfaces of the scanner mask device 20 and sensor mask device 22 are not “seated” with one another “to connect the first stand-off section with the second stand-off section” as required by claim 26; nor is the sensor mask device fixed to the optics unit.

For at least these reasons, the Office Action has failed to establish that each and every element recited by claim 26 is found in the Chang reference, and therefore, the anticipation rejection is improper and should be withdrawn. MPEP § 2131. Accordingly, claim 26 is submitted to be allowable. All claims that depend from claim 26 (i.e., claims 27-35) are likewise submitted to be allowable.

Claim 39 stands rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,341,213 to Giroux (“Giroux”). The rejection is traversed and reconsideration requested.

Claim 39 relates to a method of packaging an imager. Claim 39 recites “providing an imaging unit having (a) a microelectronic die with an image sensor . . . and (b) a first referencing element fixed to the imaging unit and having a first interface feature at a set reference position relative to the image sensor; providing an optics unit having an optic member and a second referencing element fixed to the optics unit, the second referencing element having a second

interface feature at a set reference position relative to the optic member; and attaching the second referencing element to the first referencing element by seating the second interface feature with the first interface feature in a predetermined position in which the optic member is at a desired location relative to the image sensor.” Giroux, on the other hand, teaches aligning an array of photodetectors behind a lens by use of a sine wave grating located adjacent to the lens. See col. 1, lines 10-15; col. 2, lines 32-35. The Office Action states that the convex focusing lens in Giroux reads on the claimed optics unit, however, the Office Action provides no explanation for how Giroux teaches a second referencing element having a second interface feature at a set reference position relative to the optic member that is attached to the first referencing element “by seating the second interface feature with the first interface feature in a predetermined position in which the optic member is at a desired location relative to the image sensor.”

For at least these reasons, the Office Action has failed to establish that each and every element recited by claim 39 is found in the Giroux reference, and therefore, the anticipation rejection is improper and should be withdrawn. MPEP § 2131. Accordingly, claim 39 is submitted to be allowable. All claims that depend from claim 39 (i.e., claims 40-49) are likewise submitted to be allowable.

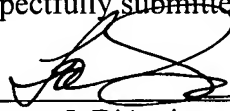
Claims 18-20 and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chang in view of Giroux as applied above. The rejection is traversed and reconsideration requested.

Independent claim 18 relates to a microelectronic imager comprising “a first referencing element fixed to [an] imaging unit; and an optics unit including an optic member and a second referencing element fixed to the optics unit and seating with the first referencing element.” As established above, neither Chang nor Giroux teaches a second referencing element that is a part of a optics unit and “seated with [a] first referencing element. . . to align the optic member with the image sensor” as recited by claim 18. For at least these reasons, claim 18, as well as claims 19-22 dependent thereon, are submitted to be allowable over the cited references, and withdrawal of the rejection is respectfully requested.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Dated: October 18, 2007

Respectfully submitted,

By 

Thomas J. D'Amico

Registration No.: 28,371

Megan S. Woodworth

Registration No.: 53,655

DICKSTEIN SHAPIRO LLP

1825 Eye Street, NW

Washington, DC 20006-5403

(202) 420-2200

Attorneys for Applicant